iGS-111

Quick Setup Guide
d'installation rapide

PLUG 'N' GROW™

www.igrowing.com

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1 888 577-6274

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8 Default Settings / Ajustements par défaut

	[Day Setpoint]	[Night Setpoint]	Low differential/ Différentiel bas	High differential/ Différentiel haut
[% RH]	60	50	3	3
[Temp °C / °F]	25	19	1	1

IMPORTANT
For a safe use of the iGS-111, read the Security and Maintenance section in the User Manual.
Pour une utilisation sécuritaire du iGS-111, lire la section Sécurité et entretien du Manuel d'utilisation.

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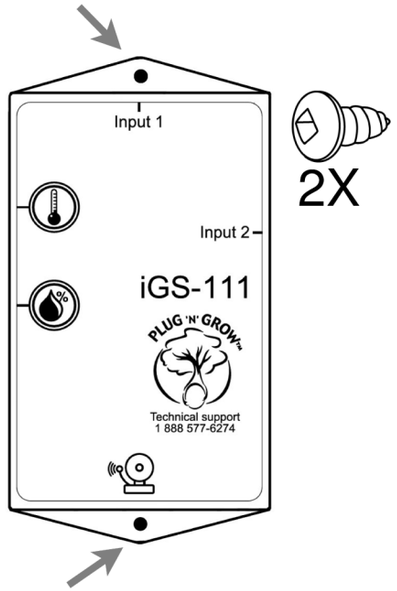

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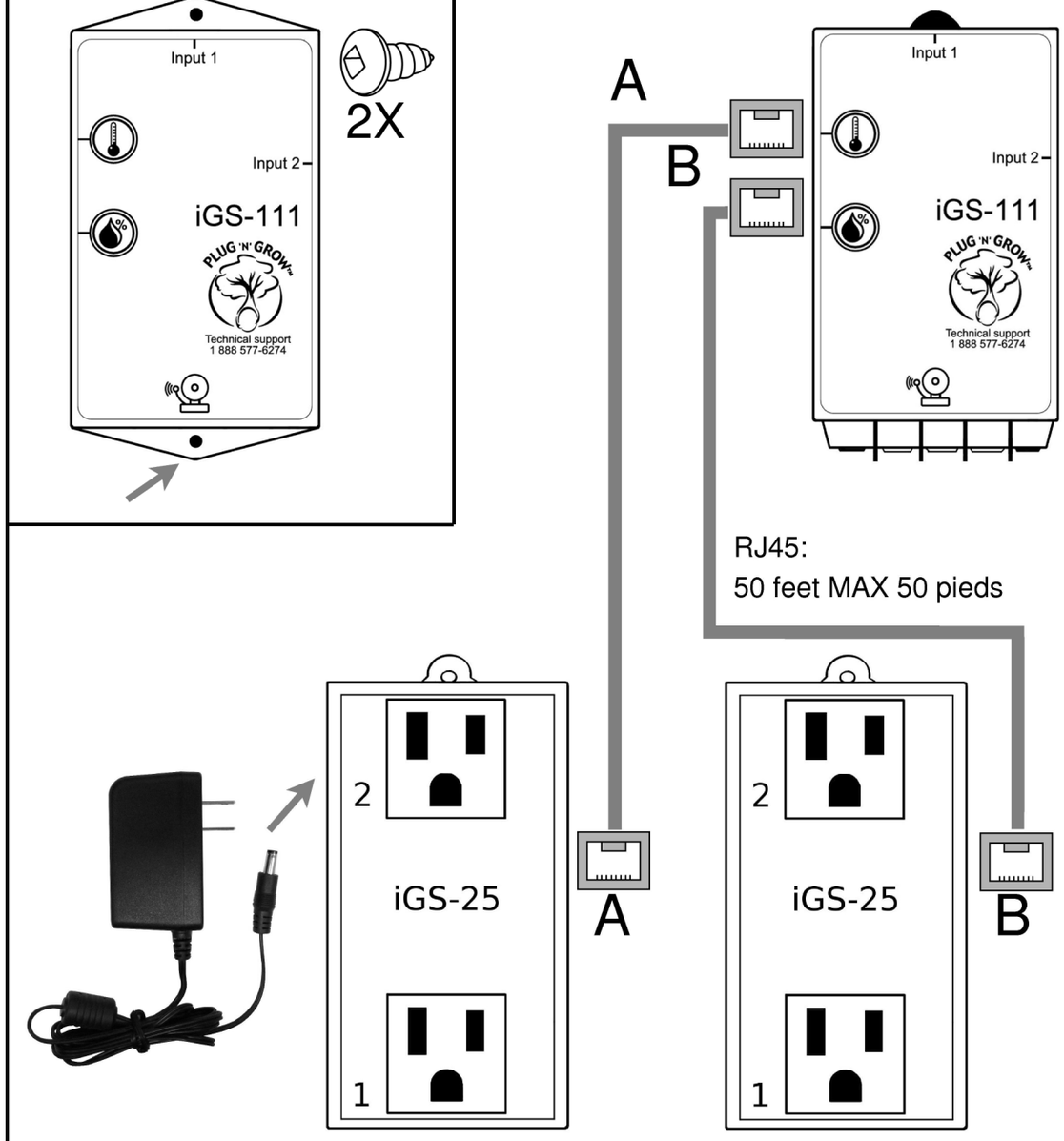

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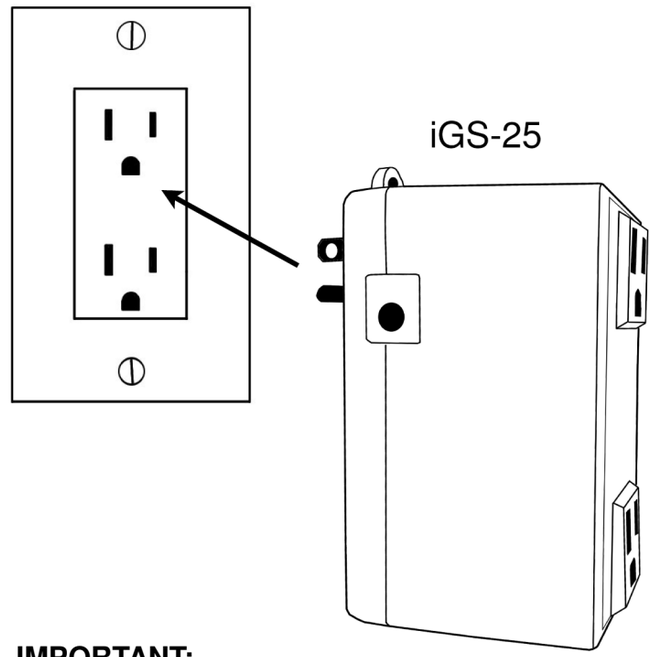

IMPORTANT:
1 circuit 15A-120 VAC per/par iGS-25

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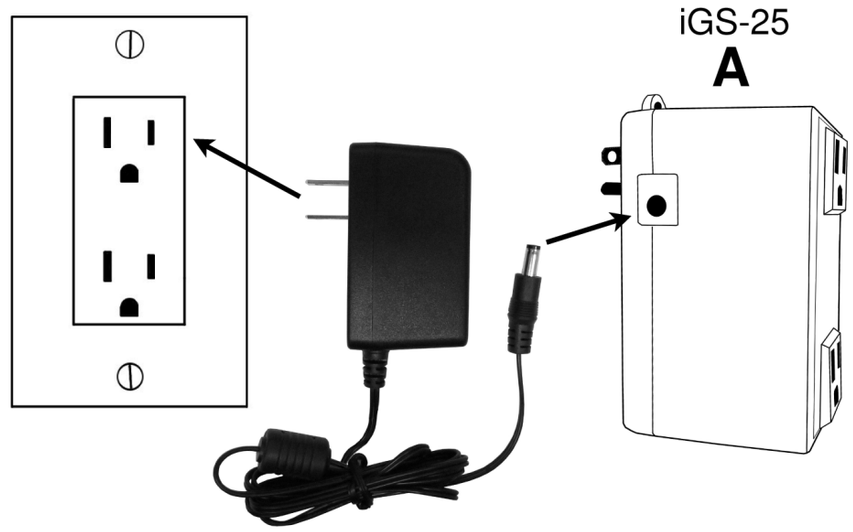
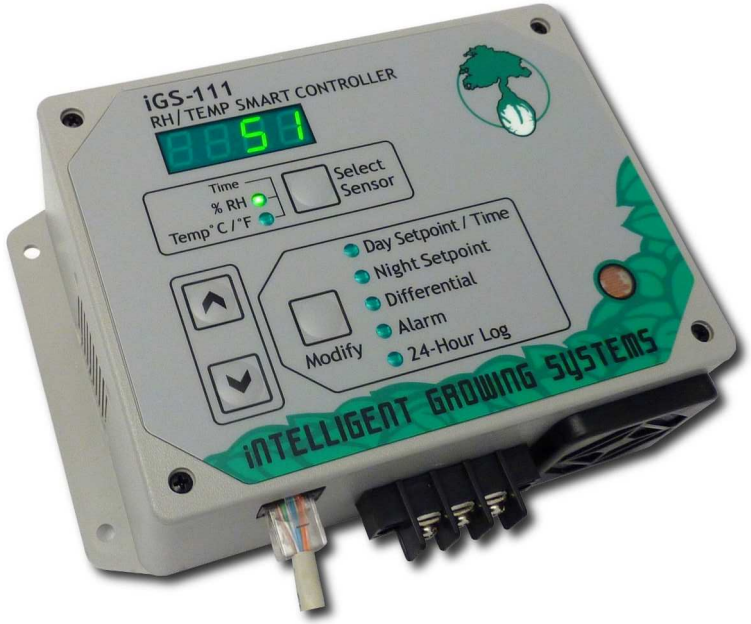


User Manual
iGS-111

INTEGRATED CONTROLLER FOR TEMPERATURE AND HUMIDITY

Why use many climate controllers when a single one can perfectly manage the garden's temperature and humidity?



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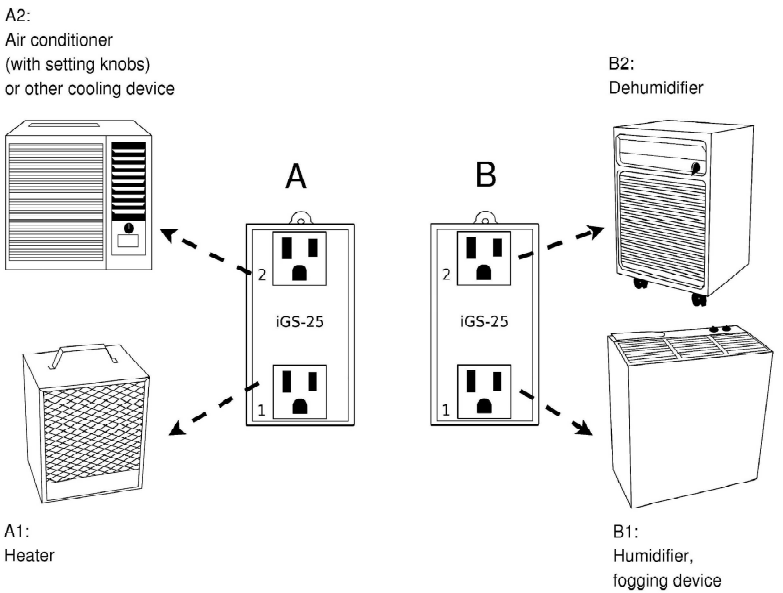
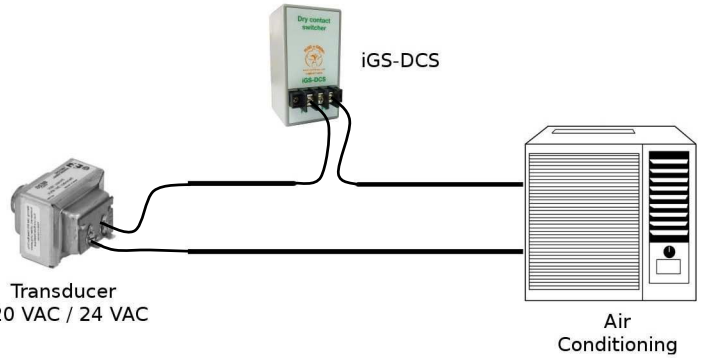
Recommanded equipments for an optimal use of the iGS-111



THE IGS-DCS - DRY CONTACT SWITCHER

The iGS-DCS is a switch relay that operates from a standard 110-120V electrical output. It activates a control loop that can operate air conditioning unit, heat pump, ventilators, humidifier, dehumidifier or “2 wires” devices connected to a less than 90V ac circuit or a 24V dc circuit. The iGS-DCS, when connected to a 110-120V climate controller’s output, replaces any thermostat or hygrometer equipped with “2 wires”. These “2 wires” once removed from the thermostat or hygrostat can be reassigned to the iGS-DCS’ electric screw terminals. Then, plugged into the proper controller’s activated output, the iGS-DCS relay will connect both electric terminals and enable the equipment. Please note that it may be necessary to use an extension cord to avoid hindering other controller’s output.



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1. DESCRIPTION

PLUG'N'GROW's iGS-111 combines precision and simplicity!

Why use many climate controllers when a single one can perfectly manage the garden's temperature and humidity?

- Intelligently manages 4 actions: heating, cooling (AC or fan), humidifying and dehumidifying.
- Prioritizes actions according to a logical sequence! No more need to coordinate many controllers together!
- Allows temperature and humidity's differential adjustment for:
  - A precise comfort zone for plants;
  - Avoiding contradictory actions like heating and cooling at the same time;
  - More energy savings;
  - A better durability of the equipments.
- Feeds up to 30 amps of controlled equipments (110-120V).
- Ready to use, just adjust your set points!
- Offers a 24 hours log to know your garden's conditions.
- Hassle free 3 years warranty.
- 7 days free technical support.

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2. CONNECTION AND INSTALLATION

COMPONENTS

1 control module

1 connection module

2 iGS-25

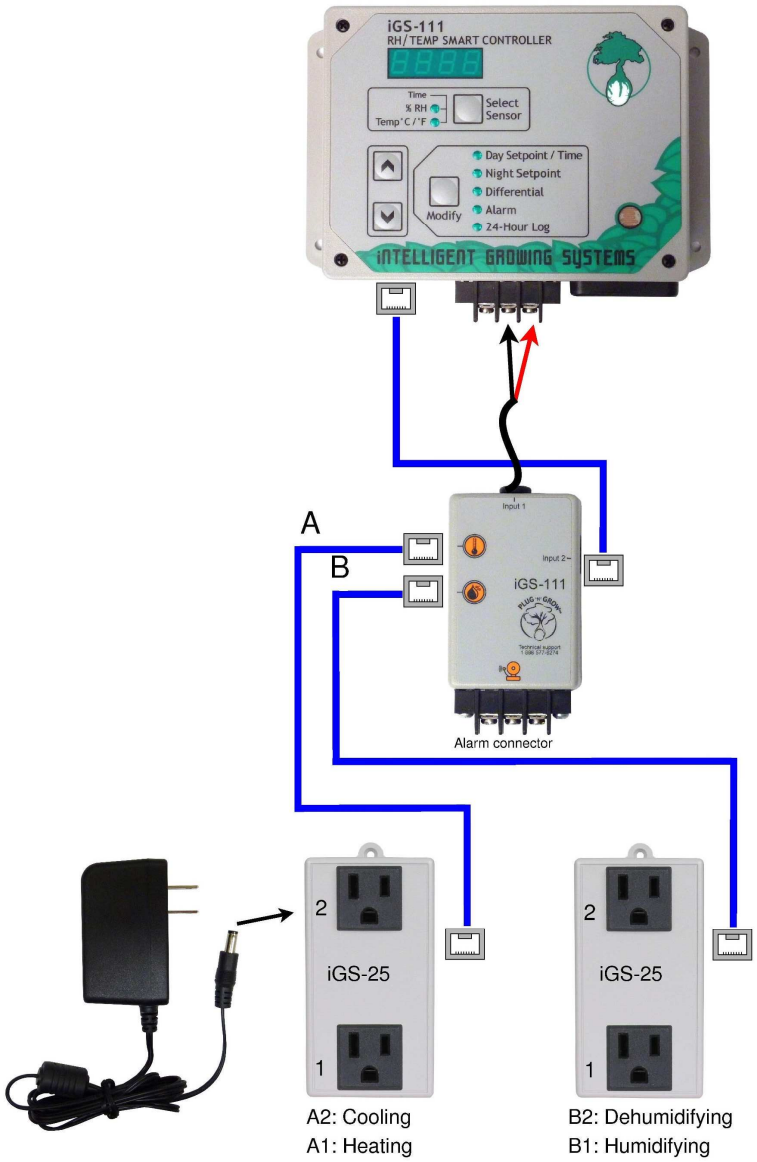
1 AC adaptor

3 Ethernet cables (RJ45)

1 spare filter

CONNECTION SCHEME

For more details, please refer to Quick Setup Guide.



CONNECTION INSTRUCTIONS

CONNECTING THE CONTROL MODULE TO THE CONNECTION MODULE

- Connect the two wires cable from the connection module (*Input 1*) to the control module's terminal block. The red wire connected to the right terminal; the black wire to the middle terminal.
- Connect one of the Ethernet cable's (RJ45) male connector into the female connector located underneath the control module and the other male connector in the connection module's female connector (*Input 2*).

CONNECTING THE CONNECTION MODULE TO EACH IGS-25

- Connect one male connector of each Ethernet cable into the connection module's female connectors (A and B).
- Connect the other male connector of the Ethernet cables into each iGS-25' female connectors.

Each iGS-25 can be replaced with an iGS-50 or the other way around. The A connector from the connection module supplies the control module with electricity. The iGS-25 linked to the A connector must be connected to an AC adaptor (see scheme page 5). The iGS-50 linked to the A connector does not require an AC adaptor.

CONNECTING THE EQUIPMENTS TO EACH IGS-25

- Connect the equipments to the iGS-25 following these indications and looking at the scheme on page 5.

Output A1: Heating equipment
Output A2: Cooling equipment
Output B1: Humidifying equipment
Output B2: Dehumidifying equipment

Equipments which use other voltage then 110-120V may be controlled by the iGS-221 by using an **iGS-DCS** (see back of cover page).

RECOMMENDED EQUIPMENTS FOR AN OPTIMAL USE OF THE IGS-111

The iGS-111's program is designed to control specific equipments. It is recommended to use the following equipments for an optimal control:

Output A1: Heater
Output A2: Air conditioner (with setting knobs), or other cooling device*
Output B1: Humidifier, fogging device
Output B2: Dehumidifier

* Air conditioners with a built in digital keyboard cannot be controlled by the iGS-111. However, it can independently be operated to reduce garden's excessive heat. To achieve this, set the air conditioner 1 or 2°C (2 to 4°F) above the iGS-111's adjusted temperature settings. A temperature sensor's calibration is suggested on your iGS-111 so both devices have equivalent temperature readings (see *Relative humidity and temperature sensors calibration* on page 21).

An intake/exhaust fan can be used for cooling in output A2. Please note that this output might be on at the same time as the humidifying or dehumidifying equipments. Also, depending on the outside weather, ventilation could not be the ideal way to get an optimal climate control in the garden.

CONNECTING AN ALARM SYSTEM

The iGS-111 allows the connection to an alarm system, such as the iMS-100 from PLUG'N'GROW. See the *Alarm* section on page 16 for more information.

INSTALLATION AND SECURITY NOTICE

DANGER: *To reduce risks of fire hazards or electrical shocks, attentively read the following instructions before feeding the system with electricity.*

SAFE INSTALLATION OF THE IGS-25

All iGS-25 have to be plugged in a 120V-15 A outlet. Each iGS-25 can support a maximal load of 15 A. In order to take advantage of 15 A for each iGS-25, **it is important to use 2 electrical outlets on 2 separate electrical circuits**. The equipments' total load must not exceed the electrical circuit capacity.

SAFE INSTALLATION OF THE CONTROL MODULE AND THE CONNECTION MODULE

The control module must be fixed to a vertical wall with 4 screws. It is recommended to locate the control module at the plants' height and at a representative location for the conditions' measurements. Also, the light sensor (photocell), located in the bottom right corner, must be able to detect the presence or absence of light.

The connection module also must be fixed on a vertical wall with 2 screws. For a long distance connection, it is possible to replace the cables linking the iGS-25 and the connection module with other Ethernet cables with a maximal length of 50 feet. **However, it is not recommended to use a cable longer than the one included between the control module and the connection module**.

3. SETTINGS AJUSTEMENT

CONTROL PANEL DESCRIPTION

● Steady Light ◐ Flashing Light

4 digits display:
The display shows different data: current room conditions, time, control module's settings and more.

2 climate parameters:
- [% RH] (Relative humidity)
- [Temp °C / °F] (Temperature)

5 applicable functions for each climate parameter:

- [Day Setpoint / Time]
- [Night Setpoint]
- [Differential]
- [Alarm]
- [24-Hour Log]

4 keys for selection:
- SELECT SENSOR: Repeatedly press this key to select a parameter.
- MODIFY: Repeatedly press this key to select a function.
- UP and DOWN ARROWS: Press to modify current value shown on the display (optional to certain menus or operating modes).

Light indicators:
Light indicators are placed beside each parameter or function and are on (lit) when a parameter or function is selected. In some cases, the light indicators might flash.

Light sensor:
The control module has a built in sensor to detect the presence or absence of light. Depending on the plant's needs, the set point for light [Day Setpoint/Time] and dark [Night Setpoint] periods may be different for each parameter.

INITIALIZATION

When the controller is initialized, the following elements appear on the display:

- The model (e.g.: P111) followed with the controller's version (e.g.: S1.10);
- Then, the time followed by an informative message (Adv), indicating that the controller was unplugged for a while. For more information, see the *Displayed Messages and Solutions* section on page 19.

The equipments' activation starts only after a 30 seconds countdown.

RELATIVE HUMIDITY SETTINGS ADJUSTMENT [% RH]

To adjust the set points for this parameter [% RH], repeatedly press SELECT SENSOR until the light indicator is on at [% RH].

The display shows the current relative humidity measurement. A flashing display means that an output associated with this parameter is active.

To adjust the functions related to relative humidity, press MODIFY. The light indicator is on at the selected function.

[DAY SETPOINT]

Relative humidity (%) adjustment during light period

Once the light indicator is on at [Day Setpoint]:

- Press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

[NIGHT SETPOINT]

Relative humidity (%) adjustment during dark period

Once the light indicator is on at [Night Setpoint]:

- Press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

Differential adjustment

For more information, see the Differential section on page 15.

Once the light indicator is on at [Night Setpoint]:

- Press MODIFY again and hold the key until the letter "L" (low), followed by a numerical value, appears on the display (approximately 3 seconds). The light indicator will flash at [Differential].
- To adjust the low differential (L), press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values. Press MODIFY to save the modification and continue with the high differential (H) adjustment.
- Press the ARROW keys to modify the high differential's current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

[DIFFERENTIAL]

This function is not active on the iGS-111. Do not take the displayed value in consideration.

[ALARM]

Alarm – Relative humidity's low and high limits adjustment

For more information, see the Alarm section on page 16.

Once the light indicator is on at [Alarm]:

- The letter "L", followed by a numerical value, appears on the display.
- To adjust the relative humidity's low limit (L), press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values. Press MODIFY to save the modification and continue with the relative humidity's high limit (H) adjustment.
- Press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

[24-HOUR LOG]

Access to the 24 hours log

For more information, see the 24 Hours Log section on page 14.

Once the light indicator is on at [24-Hour Log]:

- The display shows a definite time (clock) and the following elements for that specific time:
  - "Lo", followed by a numerical value corresponding to the lowest relative humidity level measurement.
  - "avg", followed by a numerical value corresponding to the average relative humidity level measurements.
  - "Hi", followed by a numerical value corresponding to the highest relative humidity level measurement.
- Press the DOWN ARROW key to go back in the last 24 hours or the UP ARROW key to go up to the most recent information.
- Press MODIFY to quit this function.

TEMPERATURE SETTINGS ADJUSTMENT [TEMP °C / °F]

To adjust the set points for this parameter [Temp °C / °F], repeatedly press SELECT SENSOR until the light indicator is on at [Temp °C / °F].

The display shows the current temperature measurement. A flashing display means that an output associated to this parameter is active.

To adjust the functions related to temperature, press MODIFY. The light indicator is on at the selected function.

Changing the temperature units: Celsius or Fahrenheit

Once the light indicator is on at [Temp °C / °F]:

- Repeatedly press the MODIFY key until all light indicators are off in the functions menu.
- Press MODIFY again and hold down the key until "CELS" or "FAHr" appears on the display.
- Release the key to activate the new temperature unit. If "CELS" appeared on the display, unit is now in Celsius; if "FAHr" appeared, unit is now in Fahrenheit.
- Repeat steps above to alternate between units.

[DAY SETPOINT]

Temperature (°C / °F) adjustment during light period

Once the light indicator is on at [Day Setpoint]:

- Press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

[NIGHT SETPOINT]

Temperature (°C / °F) adjustment during dark period

Once the light indicator is on at [Night Setpoint]:

- Press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

Differential adjustment

For more information, see the Differential section on page 15.

Once the light indicator is on at [Night Setpoint]:

- Press MODIFY again and hold down until the letter "L", followed by a numerical value, appears on the display (approximately 3 seconds). The light indicator will flash at [Differential].
- To adjust the low differential (L), press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values. Press MODIFY to save the modification and continue with the high differential (H) adjustment.
- Press the ARROW keys to modify the high differential's current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

[DIFFERENTIAL]

This function is not active on the iGS-111. Do not take the displayed value in consideration.

[ALARM]

Alarm – Temperature's low and high limits adjustment

For more information, see the Alarm section on page 16.

Once the light indicator is on at [Alarm]:

- The letter "L", followed by a numerical value, appears on the display.
- To adjust the temperature's low limit (L), press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values. Press MODIFY to save the modification and continue with the temperature's high limit (H) adjustment.
- Press the ARROW keys to modify the current value; hold down the key for a faster scroll of the values.
- Press MODIFY to save the modification and continue to the next function.

[24-HOUR LOG]

Access to the 24 hours log

For more information, see the 24 hours log section on page 14.

Once the light indicator is on at [24-Hour Log]:

- The display shows a definite time (clock) and the following elements for that specific time:
  - "Lo", followed by a numerical value corresponding to the lowest temperature level measurement.
  - "avg", followed by a numerical value corresponding to the average temperature level measurements.
  - "Hi", followed by a numerical value corresponding to the highest temperature level measurement.
- Press the DOWN ARROW key to go back in the last 24 hours or the UP ARROW key to go up to the most recent information.
- Press MODIFY to quit this function.

TIME CLOCK SETTING

The controller does not rely on clock to operate but rather on light and dark periods detected from the light sensor (photocell). The accuracy of the time on the clock does not affect the controller's proper functioning.

However, time setting is essential for a good 24 hours log interpretation.

For more information, see below the 24 Hours Log section.

To set the time

- Repeatedly press SELECT SENSOR until the light indicators are simultaneously on at [% RH] and [Temp °C / °F].
- Press MODIFY to select [Day Setpoint / Time].
- Press the UP ARROW key to set the hours; hold down the key for a faster scroll of the values.
- Press the DOWN ARROW key to set the minutes; hold down the key for a faster scroll of the values.
- Press MODIFY to save the settings.

Please note that the controller uses a 24 hour clock (e.g.: 13:00 = 1:00 pm).

24 HOURS LOG

The 24 hours log is useful for:

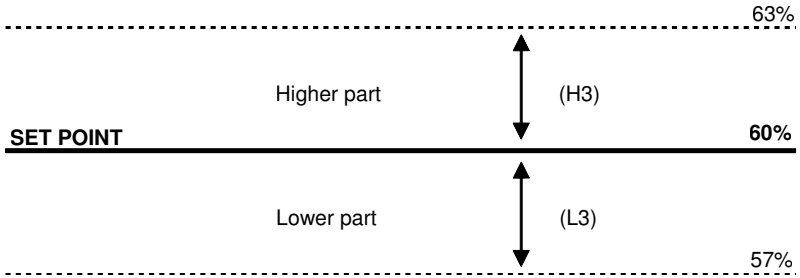
- detecting defective equipments or intermittent problems;
- knowing your garden's conditions in the last 24 hours;
- following climatic conditions to learn more about plants.

The 24 hours log keeps in memory the measured values during the last 24 hours. The controller calculates for every one hour period the minimum ("Lo"), the maximum ("Hi") and the average ("avg") measurements for each parameter (% RH, Temp). The displayed values represent the measurements taken in the hour preceding the one displayed (e.g.: 23:00 = measurements between 10:00 pm and 11:00 pm).

It is important to set the time on your controller to get the log's information synchronised with real time (see *Time Clock Setting* section on page 14). To get access to the 24 hours log, see pages 11 and 13 in the *Settings Adjustment* section.

DIFFERENTIAL

The iGS-111 differential represents the climate's variation around the set point. In other words, the differential is the range between the values at which the controller shuts off an equipment and at which the controller turns on the opposite action equipment (e.g.: heater and air conditioner). The differential contains an inferior part and a superior part from the set point. To ease the display's reading, the inferior differential (Low) is identified with an "L" and the superior differential (High) is identified with an "H". E.g.: For relative humidity, an inferior differential of 3% will display as "L3" and a superior differential of 3% as "H3".



Differential levels recommended for relative humidity and temperature control

For temperature control, the recommended differential value for low and high differentials is 1.0 °C (1.8 °F): "L1.0" and "H1.0" in Celsius and "L1.8" and "H1.8" in Fahrenheit. For the relative humidity control, the recommended differential value for the low and high differentials is 3 %: "L3" and "H3". However, you can modify these values to better suit your garden's environment (see *Differential adjustment* sections on pages 10 and 12).

Using a differential avoids that an equipment turns on at the same time as the opposite action equipment turns off (e.g.: heater and air conditioner). Generally, a small differential allows more stable conditions but can also cause waste of energy and wear off the equipment faster. It is important to find the right settings. Trial and error is the only sensible procedure to find out.

ALARM

In order to be informed of any problem with the relative humidity or temperature control, it is possible to designate low and high limits for these parameters to trigger the alarm of the iGS-111. As soon as the ambient conditions drop down lower than the low limit or exceed the high limit, the alarm will be activated: a message (Alr X) will be displayed and the dry contact on the alarm connector (connection module) will be activated as well. To fully take advantage of these alarm options, the iGS-111 must be connected to a compatible alarm system (0.6 A @ 120 Vac or 2A @ 30 Vdc), such as the PLUG'N'GROW automatic dialer iMS-100 (not included).

TWO ALARM MODES AVAILABLE

Mode A

Safe connection - triggers the contact when any of these three conditions is met:

- A power outage, a power supply or any component failure;
- A sensor or memory failure;
- Ambient conditions have reached the relative humidity or temperature's low or high limits.

Mode B

Regular connection - triggers the contact when any of these two conditions is met:

- A sensor or memory failure;
- Ambient conditions have reached the relative humidity or temperature's low or high limits.

Mode B is not a safe connection. If the alarm relay or triggering circuit fails, the alarm might not be transmitted.

Alarm system connection

- Unplug the controller.
- The alarm connector is located underneath the connection module. Referring to the picture, connect the alarm system's wires to the terminal corresponding to the selected mode (Mode A = terminal Com + A; Mode B = terminal COM + B).
- Plug the controller.

Alarm mode adjustment (A or B)

- Repeatedly press the SELECT SENSOR key until the light indicator is on at [Temp °C / °F] or [% RH].
- Repeatedly press the MODIFY key until the light indicator is on at [Alarm]. The letter "L", followed by a numerical value, is displayed.
- Press MODIFY again and hold down the key until the letter "A" or "b" appears on the display (mode A or B). The light indicator is flashing at [Alarm].
- Press the ARROW keys to select the alarm mode.
- Press MODIFY to save the modification and continue to the next function.
- To quit, repeatedly press MODIFY until all light indicators are off in the functions menu.

To modify the relative humidity's low and high limits, see the section *Alarm – Relative humidity's high and low limits adjustment* on page 10.

To modify the temperature's low and high limits, see the section *Alarm – Temperature's high and low limits adjustment* on page 13.

To deactivate the iGS-111's alarm functions, adjust the relative humidity and temperature's low and high limits to values that will never be reached and that are different than 0.

4. SEQUENCE OF ACTIONS

To control the different equipments plugged in the iGS-25, the iGS-111 uses a non modifiable internal programming. This programming allows the controller to intelligently manage the 4 equipments, prioritizing a logical sequence of actions.

The following table sums up many possible situations and the outputs that will be activated in each case. The controller constantly monitors the situation and chooses the correct action as needed.

TABLE OF SEQUENCE OF ACTIONS

Outputs	Actions
A1	Heating
A2	Cooling
B1	Humidifying
B2	Dehumidifying

	ACTIVATED OUTPUTS	
Actions	**Immediate activation**	**Activation after 5 min**
Humidifying	B1	
Dehumidifying	B2	
Heating	A1	
Cooling	A2	
Humidifying, heating	B1, A1	
Humidifying, cooling	A2	B1
Dehumidifying, heating	A1	B2
Dehumidifying, cooling	A2	B2

Example:

Dehumidifying, heating: A1 —(5 min)→ B2

In a growing environment, the relative humidity level is too high and the temperature is too low; the iGS-111 is in a situation where it needs to dehumidify and heat. First, the controller will activate the heating equipment (A1). If the desired temperature is not reached after 5 minutes and the heat has not allowed to dehumidify enough, the dehumidifying equipment (B2) will be activated (working at the same time as the heating equipment) until the desired humidity level is reached.

Oppositely, if the desired temperature is reached after 3 minutes only, and the humidity level is still too high, the heating equipment (A1) will shut off and the dehumidifying equipment (B2) will immediately be activated.

5. DISPLAYED MESSAGES AND SOLUTIONS

INFORMATION MESSAGES (*ADVICE*)

Code	Cause	Effects on controller	Solution
Adv 3	Automatic system recovery has completed successfully after intermittent fault.	The message disappears by pressing MODIFY key.	Verify your settings to validate that the recovered data are exact to your adjustments.
Adv 6	The system has restarted after a short power outage of less than 2 hours.	At power on, the time is displayed. The message disappears by pressing the MODIFY or SELECT SENSOR key. The 24 hours log has been erased for the power outage duration.	Verify and adjust the time if needed. See *Time Clock Setting* section on page 14.
Adv 7	The system has restarted after a power outage lasting between 2 and 36 hours.		
Adv 8	The system has restarted after a long power outage of more than 36 hours.	At power on, the time is displayed. For a long power outage, it is most likely that time adjustment is needed. Message disappears when the time clock is adjusted. The 24 hours log has been totally erased.	Adjust the time clock since data have been lost due to the long power outage which has drawn all current from the rechargeable backup battery. See *Time Clock Setting* section on page 14.

ERROR MESSAGES

Code	Cause	Solution
Err 1	A key from the keyboard is pressed at power up.	If a key is stuck in, call technical support at 1 888 577-6274.
Err 4	Temperature/humidity sensor is defective.	Disconnect and reconnect the controller or do a reset. See *Reset Procedure* at the end of this section. If the problem persists, call technical support at 1 888 577-6274.
Err 6	Automatic recovery has failed after intermittent fault.	

ALARM MESSAGES

Code	Cause	Effect on controller	Solution
Alr 1	Relative humidity's low limit has been reached.	The message disappears once the conditions return between the limits set by the user. The alarm's dry contact is activated.	Verify room conditions or adjust the alarm's limits. See sections *Alarm – Temperature's high and low limits adjustment* and *Alarm – Relative humidity's high and low limits adjustment* on pages 10 and 13.
Alr 2	Relative humidity's high limit has been reached.		
Alr 3	Temperature's low limit has been reached.		
Alr 4	Temperature's high limit has been reached.		

RESET PROCEDURE

To reset the controller to factory default settings, follow the steps below:

- Disconnect the Ethernet cable (RJ45) from the connector located underneath the control module iGS-111.
- Simultaneously press the UP and DOWN ARROWS and keep pressed while reconnecting the Ethernet cable.
- Wait until 3 horizontal lines (≡≡≡≡) appear on the display (about 5 seconds) before releasing the ARROW keys.
- The controller will restart: all settings are restored except altitude, time and the 24 hours log.

6. SENSORS CALIBRATION

The iGS-111 includes 2 climate sensors: one for the temperature and a second one for relative humidity. Each of them can be independently calibrated without affecting the other.

RELATIVE HUMIDITY AND TEMPERATURE SENSORS CALIBRATION

Do you need to calibrate your relative humidity or temperature sensors?

Relative humidity and temperature sensors are **factory calibrated**. They are built to preserve their precision for their lifetime. **We recommend not to calibrate these sensors,** even if it is possible to do so without damaging them. In general, these sensors require calibration only if you wish that two separate controllers display the same reading. Calibrating these sensors means **adding or subtracting an offset** between the parameter real value and the displayed value. This offset is memorised in the controller until the next calibration or reset. The reset allows to return to factory default settings (see page 20 for Reset procedure).

CALIBRATION PROCEDURE

Before beginning, make sure to use a reliable measuring device (thermometer or precision hygrometer) that will become your **reference** for this calibration.

- Repeatedly press SELECT SENSOR key until [% RH] or [Temp °C/°F] light indicator is on, depending on the sensor you wish to calibrate.
- Repeatedly press MODIFY key until all light indicators are off in the functions menu.
- Press UP ARROW and DOWN ARROW alternately 5 times within 5 seconds (up/down, up/down...); the display shows “CAL” and “rh” alternately for the relative humidity sensor, or “CELS” (“FAHr” if programmed in Fahrenheit) and “CAL” for the temperature sensor.
- Press SELECT SENSOR to continue to the next step. Press MODIFY to abort the calibration at any time.
- The display shows “CAL” and a numerical value alternately corresponding to the relative humidity or temperature measured from the sensor. Press the UP or DOWN ARROW key to adjust the value according to the one measured from your reference.
- Press SELECT SENSOR to continue to the next step.
- When the calibration is completed, the display shows “CAL” and “Done” alternately.
- Press any key to exit. The controller will restart.

7. SECURITY AND MAINTENANCE

AIR FILTER

The controller is equipped with an internal fan that allows a faster air sampling. Do not expose the venting slits to potential sources of humidity or dust. These slits located under the control module are protected by a dust guard filter that should be there at all times. We recommend to regularly clean or replace the dust guard filter to improve the controller’s effectiveness and its length of life.

To remove the filter, lift up the black plastic cover. Be careful to keep the screen located inside. Place the screen back in the black cover and place the new or cleaned filter on the screen. Place the cover back.

WATER SPLASHING

Do not direct a water jet towards the iGS-111 control module, the connection module as well as the iGS-25. These enclosures can withstand light splashing but should not be drenched with water to protect the sensors and the internal circuitry, and to prevent possible electrical hazards.

ELECTRICAL SPECIFICATIONS

IMPORTANT: Each iGS-25 can support a maximum of 15 A. In order to take advantage of 15 A for each iGS-25, **it is important to use 2 electrical outputs on 2 separate electrical circuits**. The equipments' total load must not exceed the electrical circuit capacity.

Control module iGS-111		
Input power	12 Vdc @ 600 mA	
Internal fan	Magnetic levitation sleeve bearing, 7 cfm	
Temperature sensor range	-20 °C to +50 °C or -4 °F à +122 °F. To change units, see page 11.	
Temperature sensor precision	+/- 1 °C or +/- 2 °F	
Temperature sensor calibration	Factory calibrated, 5 years minimum, see page 21.	
RH sensor range	0 to 100 % relative humidity (RH)	
RH sensor precision	+/- 3,5 % (RH)	
RH sensor calibration	Factory calibrated, 3 years minimum, see page 21.	
Front panel	Splash proof keyboard membrane	
Alarm dry contact	N.O or N.C., fail safe or standard, 0.6 A @ 120 Vac or 2A @ 30 Vdc	
Operating temperature	0 to 60 °C, 0 to 95 % non-condensing RH.	
iGS-25		
Input	120 V – 60 Hz – 15 A	
Output voltage	120 V – 60 Hz	
Output maximum current	**Load type**	**Rating**
	General purpose	15 A total for both receptacles*
	Resistive	15 A total for both receptacles*
	Motor	½ HP total for both receptacles *
AC adapter		
Power Supplied	12V DC center positive 800 mA min	

*In the case of iGS-111, the equipments plugged in on a same iGS-25 act in opposite ways and the controller will not activate them at the same time. Therefore, we can calculate a maximum load of 15 A for each iGS-25's male plug.

8. WARRANTY

Nova Biomatique, Inc. (hereafter NBI) offers a 3 year warranty from the date of original purchase by the end-user (**proof of purchase required**), applicable to defects in material and workmanship for the control module (iGS-111), the connection module and the iGS-25. All guarantee claims must be submitted directly to NBI by the retailer or end-user (1 888 577-6274). The warranty only applies to new products purchased from an authorised store or wholesaler (not applicable on used products sold on the Internet). The warranty is limited to the repair or replacement of any defective part of the product covered by warranty upon NBI's technical support appraisal. The warranty **does not cover the followings**: defects resulting from shipping (insurance is recommended), customers' installation, improper or abusive uses, excessive wear, negligence or non authorized tampering.

Distributors, dealers or other sales representatives in partnership with NBI are prohibited from adding or deleting items from this warranty coverage. For any questions related to your warranty, call PLUG'N'GROW (1 888-577-6274) customer service representatives.

Shipping fees are the customer's responsibility, except for replacements or repairs covered by the warranty, where NBI will only assume the return standard ground shipping fees.

STEP-BY-STEP WARRANTY AND REPAIRS IMPLEMENTATION

1. All end-users and retailers **please call first the PLUG'N'GROW toll-free technical support**: 1 888 577-6274.
2. Over the phone, we will quickly investigate the problem and decide if the product needs repairs or replacement.
3. We will need the serial number, the product's date of purchase of the product, the store name from which it was purchased from and an accurate description of the problem.
4. If the product needs to be replaced, the retail store will give the end-user a brand new one as soon as we issue an authorization number, which will be faxed or emailed to the retailer.
5. If it has to be repaired under warranty, we also need to give an authorization number though our technical support service, then the product can be shipped to our facilities by the retailers' store (shipping cost at your charge).
6. If the end-user sends us a product for repair, which is not under warranty, and declines that the product be repaired at the estimated costs, he will be charged $50.00 plus shipping fees. We will return the defective unit without repairs.
7. All repaired and replaced products under warranty returned to retailers and/or end-users will be shipped standard ground or, if paid by the customer, using a faster delivery service.

Toll Free Technical Support: 1 888 577-6274
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